

**WHAT IS CLAIMED IS:**

1. A method for discovering a power level in a diode discovery circuit comprising:

transmitting a pulse signal from a diode discovery device on a first line;

receiving the pulse signal in the diode discovery device on a second line;

measuring a time to charge a capacitor in response to applying power to determine the power level; and

applying power in response to comparing the transmitted pulse signal to the received pulse signal and to measuring the time.

2. The method of claim 1 in which the pulse signal includes a pseudo random generated 11-bit word.

3. The method of claim 2 in which the pseudo random generated 11-bit word is generated by a recursive linear function.

4. The method of claim 3 in which the recursive linear function is  $X(n) = X[n-11] + X[n-9] \text{ (modulo 2)}$ .

5. The method of claim 2 in which the pseudo random generated 11-bit word is seeded by a port number of the diode discovery device.

6. The method of claim 1 further comprising repeating the transmitting and receiving.

7. A computer program product residing on a computer readable medium having instructions stored thereon which, when executed by the processor, cause the processor to:

transmit a pulse signal from a diode discovery device on a first line;

receive the pulse signal in the diode discovery device on a second line;

measure a time to charge a capacitor in response to applying power to determine the power level; and

apply power in response to comparing the transmitted pulse signal to the received pulse signal and to the measured time.

8. The computer program product of claim 7 in which the pulse signal includes pseudo random generated 11-bit word.

9. The computer program product of claim 8 in which the pseudo random generated 11-bit word is generated by a recursive linear function.

10. The computer program product of claim 9 in which the recursive linear function is  $X(n) = X[n-11] + X[n-9] \pmod{2}$ .

1 11. The computer program product of claim 8 in which the  
2 pseudo random generated 11-bit word is seeded by a port number  
3 of the diode discovery device.

1 12. A diode discovery system comprising:

2 a diode discovery process controller to:

3 transmit a pulse signal from the controller on  
4 a first line;

5 receive the pulse signal in the controller on a  
6 second line;

7 measure a time to charge a capacitor in a diode  
8 detection circuit in response to applying power to  
9 determine the power level;

10 apply power in response to comparing the  
11 transmitted pulse signal to the received pulse  
12 signal and to the measured time;

13 a voltage source connected to the controller; and

14 a power converter linked to the diode detection circuit.

1 13. The system of claim 12 in which the pulse signal includes  
2 pseudo random generated 11-bit word.

1 14. The system of claim 13 in which the pseudo random  
2 generated 11-bit word is generated by a recursive linear  
3 function.

1 15. The system of claim 14 in which the recursive linear  
2 function is  $X(n) = X[n-11] + X[n-9] \pmod{2}$ .

1 16. The system of claim 13 in which the pseudo random  
2 generated 11-bit word is seeded by a port number of the diode  
3 discovery device.

1 17. The system of claim 12 further comprising means for  
2 repeating the pulse signal.